

**UAB THE UNIVERSITY OF ALABAMA AT BIRMINGHAM**

# AGING BIOLOGY UPDATE

BROUGHT TO YOU BY THE  
**UAB NATHAN SHOCK CENTER OF EXCELLENCE  
IN THE BASIC BIOLOGY OF AGING**

## **December 2023 ABU**

### **Featured**

[Isoleucine restriction increases healthspan and lifespan in mice in an age and sex-specific manner](#)

[Calorie restriction reduces biomarkers of cellular senescence in humans](#)

### **Basic Biology**

[How muscles make the brain better during aging.](#)

[A plant proteostasis factor prevents aggregation of protein causing Huntington's disease](#)

[Spermidine rejuvenates oocyte quality in aging mice](#)

[Mid-old cells are a potential target for anti-aging interventions in the elderly.](#)

[Conserved role for the amyloid precursor protein in proteostasis during aging.](#)

[Senolytic therapy, physiological human brain aging and COVID-19 neuropathology.](#)

[Shift of the insoluble content of the proteome in the aging mouse brain](#)

[Human Ageing Genomic Resources: updates on key databases in ageing research](#)

[Optimized methods for validating circulating miRNA biomarkers in aging-related diseases](#)

[The CRTC-1 transcriptional domain required for COMPASS complex-mediated longevity in worms](#)

[CD133+ endothelial-like stem cells promote longevity in progeroid and naturally aged mice](#)

[Tissue-specific loss of cellular identity during aging.](#)

[CD300f immune receptor contributes to healthy aging in mice](#)

[Sex dimorphism across single-cell transcriptomes of adult African turquoise killifish tissues](#)

[Refeeding-associated AMPK \$\gamma\$ 1 complex activity is a hallmark of health and longevity in African turquoise killifish](#)

[Smurfness-based two-phase model of aging in \*Drosophila\*](#)

[Age-associated transcriptional stress due to accelerated elongation and increased stalling of RNAPII](#)

[Proteomic characteristics at different ages in the male C57BL6J mouse brain](#)

Resource: [scDiffCom: a tool for differential analysis of cell-cell interactions provides a mouse atlas of aging changes in intercellular communication](#)

Review: [Lysosomes in senescence and aging](#)

Review: [Mouse models of musculoskeletal aging](#)

Review: [Olfaction, longevity and metabolism](#)

Review: [Do SGLT2 inhibitors slow aging?](#)

Preprint: [Transcriptional drift in aging worm cells](#)

Preprint: [Quantification of healthspan in aging mice](#)

Preprint: [Exceptionally long-lived macromolecules in mammalian ovaries and oocytes](#)

### **Contrary or Null Findings**

[Playing professional American football does not increase longevity](#)

[Immuno-senescence markers, but not inflammaging or functional capacity, are associated with survival beyond 100 years in a small group of Cuban centenarians](#)

[SIRT2 transgenic over-expression does not impact lifespan in mice](#)

[Dietary polyamine intake is not linked to all-cause or cause-specific mortality in Japanese adults](#)

[HomeHealth intervention did not maintain independence in older people with mild frailty](#)

### **Energetics/Nutrition**

[Green tea extract and nordihydroguaiaretic acid extend worm lifespan in a species-specific manner](#)

[Maternal high fat diet in lactation increases late life susceptibility to obesity in male, but not female, mice](#)

[Dietary factors, cognitive impairment and physical frailty in Chinese older adults](#)

[Skeletal muscle TFEB signaling promotes CNS function and reduces neuroinflammation](#)

[during aging](#)

Preprint: [Skeletal muscle energetics explain sex disparity in age-related mobility impairment](#)

Preprint: [NMR metabolomic modelling of age and lifespan: a multi-cohort analysis](#)

## **Epidemiology/Demography**

[United States Life Tables, 2021](#)

[Deaths: Final Data from 2020](#)

[Why do women live longer but have less variability in longevity than men?](#)

[Modelling lifespan reduction in an exogenous damage model of generic disease](#)

[Trends in ages at death of Norwegian centenarians: the 1870-1904 birth cohorts](#)

[Irregular sleep-wake patterns associated with higher mortality risk in elderly Britons](#)

[Phthalate exposures are associated with biological aging among adults](#)

[Adverse childhood experiences and late-life cognitive decline—study of healthy aging in African Americans \(STAR\) cohort](#)

[Association of gestational diabetes with subsequent long-term mortality risk](#)

[Population aging associated with smaller outbreaks but greater mortality with COVID-19 and influenza](#)

[Actionable genotypes associated with lifespan in Iceland](#)

[Immune cells are associated with mortality: the Health and Retirement Study](#)

[Are self-reported medical conditions and medicine use from middle-aged and older adults credible?](#)

[Factors associated with multimorbidity in England](#)

[Survival and longevity of European rulers 1354 to the twentieth century](#)

[Access to childhood health services on healthy life expectancy of older Chinese adults](#)

[Age at diagnosis of atrial fibrillation associated with incident all-cause dementia](#)

Resource: [CenSoc: public linked administrative mortality records for research](#)

Review: [Life expectancy and years of potential life lost in people with mental disorders](#)

Review: [Sex-specific reproductive risk factors for dementia or cognitive decline](#)

## **Clinical**

[Deficit Accumulation Index and epigenetic age acceleration but not telomere length associate with accelerated aging of childhood cancer survivors](#)

[The longevity protein Klotho: a promising tool to monitor lifestyle improvements](#)

[General practitioners less likely to advise European women to exercise](#)

[Metabolomic characterization of vigor to frailty among community-dwelling older Black and White men and women](#)

[Identifying incontinence and promoting continence in people living with dementia](#)

[Goal setting as an intervention to promote independence in elders with mild frailty](#)

[Signaling need for care: a neglected functional role of medical treatment](#)

[Social connectedness, functional capacity, and longevity](#)

[Frailty is associated with delayed clinical assessment in acute care](#)

[Couplepause: deconstructing sick menopause and andropause during midlife](#)

[Frailty is associated with serum inflammaging markers](#)

[The association of hearing loss with frailty among community-dwelling older adults](#)

Review: [Age-related hearing loss: aging ear or aging brain?](#)

Review: [The aging thyroid: implications for longevity and patient care](#)

Review: [Sex hormone signaling, aging and regulation of immune function](#)

Review: [Hallmarks of ageing in human skeletal muscle](#)

Review: [Aging and oral health research](#)

Review: [Interactions between immunosenescence, inflammation, and autoimmunity](#)

### **Evolution/Comparative**

[The 'faulty male' hypothesis for sex-biased mutation, disease and aging](#)

[Gene purging as a key to avian longevity?](#)

[Evolutionary genomics of \*Daphnia\* sister species differing in lifespan](#)

[Insights on aging and regeneration from salamanders](#)

[Parental age effect on the longevity and healthspan in worms and flies](#)

Review: [Comparative biology for basic aging research and translational studies](#)

### **Novel Organisms**

[House sparrows early-life telomeres influenced by environmental variation](#)

[Paternal environment effects are driven by female reproductive fluid but not sperm age in mussels](#)

[The biology of aging in a social world: insights from free-ranging rhesus macaques](#)

[Senescence is not linked to male reproductive stress in five species of ground squirrels](#)

[Serum biomarkers associated with aging and neurodegeneration in common marmosets](#)

[Roles of cellular senescence in limb regeneration in the axolotl](#)

### **Caregiving**

[The economic value of caregiving in Chile](#)

[Caregiving was associated with lower mortality in postmenopausal US women](#)

[Quality of life and health of informal Belgian caregivers >65 years of age](#)

[Health care staff turnover associated with lower quality of care at nursing homes](#)

[Sleep quality, anxiety and depression among older caregivers of centenarians in China](#)

[Experiences of hospice dementia care](#)

Review: [Understanding the health effects of caregiving stress at the molecular level](#)

### **Policy/Ethics**

[Postpone Social Security for the sake of the young?](#)

### **Commentary**

[Geriatric medicine is poorly prepared to meet older people's needs in the UK](#)

[The decline of geriatric medicine as a profession in the US](#)

[Balancing hormonal shifts: exploring the impact of ageing and dietary restriction](#)

[Moving from "vulnerability" to "inter-individual variability" in geriatric medicine](#)

### **Odd and Ends**

Perspective: [To promote healthy aging, focus on the environment](#)

Meta-analysis: [Road training improves driving skills in older people](#)

[Human societies become increasingly vulnerable to death with age](#)

Dataset: [A text mining-based human aging and longevity dataset of the biomedical knowledge from all published literature related to human aging](#)

---

Aging Biology Update is brought to you by the UAB Nathan Shock Center and compiled by Kathleen Fischer, Jessica Hoffman, Heather Patterson, and Steven Austad.

[Subscribe to this newsletter.](#)



NATHAN SHOCK CENTERS  
OF EXCELLENCE IN THE  
BASIC BIOLOGY OF AGING



Copyright © 2023 The University of Alabama at Birmingham, All rights reserved.  
1701 2nd Ave S, Birmingham, AL, 35294 US

[Privacy Policy](#) | [Terms of Use](#) | [uab.edu](http://uab.edu)